

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently amended): An integrated microarray device, which device comprises a substrate comprising a plurality of distinct microlocations and a plurality of microarray chips, wherein the number of said microlocations equals to or is more than the number of said microarray chips, and wherein ~~the microlocation(s) is thermally insulated by an inert gas~~ the microlocations are in a well format and all of the wells are connected to each other by thin girders and thermally insulated by an inert gas contained within the walls of the adjacent wells.

Claim 2 (Original): The device of claim 1, wherein the substrate comprises silicon, plastic, glass, ceramic, rubber, polymer or a composite thereof.

Claim 3 (Previously presented): The device of claim 2, wherein the substrate comprises a silicon and the silicon is silicon dioxide or silicon nitride.

Claim 4 (Original): The device of claim 1, wherein the substrate comprises a surface that is hydrophobic or hydrophilic.

Claim 5 (Original): The device of claim 1, wherein the substrate comprises a surface that is porous or nonporous.

Claim 6 (Original): The device of claim 1, wherein the microlocations and/or the microarray chips are fabricated on the substrate.

Claim 7 (Original): The device of claim 1, which comprises $(12)_n$ number of microlocations, wherein n is an integer that is at least 1.

Claim 8 (Original): The device of claim 1, wherein the microlocations are evenly or unevenly distributed on the substrate.

Claim 9 (Previously presented): The device of claim 1, wherein the number microlocations and the distance between each microlocations are the same as to a standard microtiter plate.

Claim 10 (Canceled)

Claim 11 (Currently amended): The device of claim ~~10~~ 1, which comprises $(12)_n$ number of wells, wherein n is an integer that is at least 1.

Claim 12 (Currently amended): The device of claim ~~10~~ 1, which comprises 96, 384 or 1,536 wells.

Claim 13 (Currently amended): The device of claim ~~10~~ 1, wherein the wells have a geometry selected from the group consisting of circle, oval, square, rectangle, triangle and other irregular shape(s).

Claim 14 (Currently amended): The device of claim ~~10~~ 1, wherein the wells have identical or different shapes.

Claim 15 (Original): The device of claim 1, wherein at least one of the microlocations is in fluid contact with a fluid source or fluid passage outside the device.

Claim 16 (Original): The device of claim 1, wherein all of the microlocations are in fluid contact with a fluid source or fluid passage outside the device.

Claim 17 (Original): The device of claim 1, wherein at least two of the microlocations are in fluid contact with each other.

Claim 18 (Original): The device of claim 1, wherein all of the microlocations are in fluid contact with each other.

Claims 19-23 (Canceled)

Claim 24 (Currently amended): The device of claim ~~23~~1, wherein the inert gas is air.

Claim 25 (Canceled)

Claim 26 (Original): The device of claim 1, wherein each of the microlocations comprises a microarray chip.

Claim 27 (Original): The device of claim 1, wherein the microarray chips have identical or different densities.

Claim 28 (Original): The device of claim 1, wherein the microarray chips have a density of $(100)_n$ spots/cm², wherein n is an integer that is at least 1.

Claim 29 (Original): The device of claim 1, wherein at least one of the microarray chips has a density that is less than or equals to 400 spots/cm².

Claim 30 (Original): The device of claim 1, wherein all of the microarray chips have a density that is less than or equals to 400 spots/cm²

Claim 31 (Original): The device of claim 1, wherein at least one of the microarray chips has attached thereto a plurality of moieties.

Claim 32 (Original): The device of claim 31, wherein the microarray chip(s) has attached thereto a plurality of moieties on facing up or down direction.

Claim 33 (Original): The device of claim 31, wherein each of the moieties is selected from the group consisting of a cell, a cellular organelle, a virus, a molecule and an aggregate or complex thereof.

Claim 34 (Previously presented): The device of claim 33, wherein the moiety is a cell and the cell is selected from the group consisting of an animal cell, a plant cell, a fungus cell, a bacterium cell, a recombinant cell and a cultured cell.

Claim 35 (Previously presented): The device of claim 33, wherein the moiety is a cellular organelle and the cellular organelle is selected from the group consisting of a nuclei, a mitochondrion, a chloroplast, a ribosome, an ER, a Golgi apparatus, a lysosome, a proteasome, a secretory vesicle, a vacuole and a microsome.

Claim 36 (Previously presented): The device of claim 33, wherein the moiety is a molecule and the molecule is selected from the group consisting of an inorganic molecule, an organic molecule and a complex thereof.

Claim 37 (Previously presented): The device of claim 36, wherein the moiety is an inorganic molecule and the inorganic molecule is an ion selected from the group consisting of a sodium, a potassium, a magnesium, a calcium, a chlorine, an iron, a copper, a zinc, a manganese, a cobalt, an iodine, a molybdenum, a vanadium, a nickel, a chromium, a fluorine, a silicon, a tin, a boron and an arsenic ion.

Claim 38 (Previously presented): The device of claim 36, wherein the moiety is an organic molecule and the organic molecule is selected from the group consisting of an amino acid, a peptide, a protein, a nucleoside, a nucleotide, an oligonucleotide, a nucleic acid, a vitamin, a monosaccharide, an oligosaccharide, a carbohydrate, a lipid and a complex thereof.

Claim 39 (Original): The device of claim 1, wherein at least two of the microarray chips have attached thereto a plurality of moieties.

Claim 40 (Original): The device of claim 39, wherein each of the microarray chips has attached thereto same type or different type of moieties.

Claim 41 (Original): The device of claim 1, wherein each of the microarray chips has attached thereto a plurality of moieties.

Claim 42 (Original): The device of claim 1, wherein at least one of the microlocations comprises a temperature controller.

Claim 43 (Original): The device of claim 42, wherein each of the microlocations comprises a temperature controller.

Claim 44 (Original): The device of claim 42, wherein each of the temperature controller is individually controllable.

Claim 45 (Original): The device of claim 42, wherein the temperature controller is selected from the group consisting of a resistive heater, a bidirectional semiconductor temperature controller, a ceramic heater and an infrared heater.

Claim 46 (Original): The device of claim 1, wherein the substrate is an unitary unit.

Claim 47 (Original): The device of claim 1, wherein the substrate is an assembled unit, which can be disassembled into at least two parts.

Claims 48-54 (Cancelled).